

WHAT IS CLAIMED IS:

1. A printing system composed of plural printing apparatus, a client apparatus capable of setting the print environment and setting the print attribute, and
5 a server apparatus for causing at least one of the plural apparatus to execute the printing according to print data from the client apparatus, the system comprising:

holding means for holding description information
10 describing the respective functions of the plural printing apparatus;

generation means for selecting printing apparatus based on the print environment set in the client apparatus, and generating description information
15 describing the function of a virtual printing apparatus composed of the selected printing apparatus, based on the description information held by said holding means;

display control means for displaying an image of the print attribute on a display unit of the client
20 apparatus, based on the description information generated by said generation means; and

control means for causing the printing apparatus constituting the virtual printing apparatus to print the print data from the client apparatus, based on the
25 print attribute set on said image.

2. A system according to claim 1, wherein:

the description information held by said holding means includes information indicating the type of the printing apparatus;

5 said display control means displays an image for setting the type and number of the printing apparatus, on the display unit of the client apparatus; and

10 said generation means selects the printing apparatus based on the type and number set on the image, and generates the description information of the virtual printing apparatus based on the description information including information indicating the set type.

3. A system according to claim 1, wherein:

15 said display control means displays an image for designating the printing apparatus on the display unit of the client apparatus; and

20 said generation means selects the printing apparatus designated on the image, and generates the description information of the virtual printing apparatus based on the description information of the designated printing apparatus.

25 4. A system according to claim 1, further comprising:

input operation means capable of an input operation for renewing the content of the description

00891531.062701
102280.1251880

information of the printing apparatus.

5. A system according to claim 1, wherein:

the description file of the virtual printing
5 apparatus describes the function obtained by combining
plural printing apparatus.

6. A system according to claim 1, wherein:

said generation means determines the number of
10 copies that can be outputted by the virtual printing
apparatus, by adding the numbers of copies that can be
respectively outputted by the plural printing
apparatus.

15 7. A system according to claim 1, wherein:

said generation means determines the number of the
output bins of the virtual printing apparatus, by
adding the respective numbers of the output bins of the
plural printing apparatus.

20

8. A system according to claim 1, wherein:

said generation means determines the kinds of
papers that can be processed by the virtual printing
apparatus, by the kinds of papers that can be
25 respectively processed by the plural printing
apparatus.

0001001-00704
0000000000000000

9. A system according to claim 1, wherein:

said generation means either determines that the virtual printing apparatus has a two-side printing function in case at least one of the plural printing apparatus has the two-side printing function, or determines that the virtual printing apparatus has a sheet processing function in case at least one of the plural printing apparatus has the sheet processing function.

10

10. A system according to claim 9, wherein:

said sheet processing function is a stapling function, a book binding function, a folding function, a punching function, a gluing function, an enveloping function or a private box delivery function.

15

11. A system according to claim 1, wherein:

said control means judges whether or not to disperse the print data to plural printing apparatus based on the set print attribute, and transmits the dispersed print data to the respective printing apparatus.

20

12. A system according to claim 11, further

25

comprising:

informing means for informing how the print data are dispersed, from the server apparatus to the client

apparatus.

13. A print processing method for use in a printing system composed of plural printing apparatus, a client apparatus capable of setting the print environment and setting the print attribute, and a server apparatus for causing at least one of the plural apparatus to execute the printing according to print data from the client apparatus, the method comprising:

10 a generation step of selecting printing apparatus based on the print environment set in the client apparatus, and generating description information describing the function of a virtual printing apparatus composed of the selected printing apparatus, based on
15 the description information;

a display control step of displaying an image of the print attribute on a display unit of the client apparatus, based on the description information generated by said generation step; and

20 a control step of causing the printing apparatus constituting said virtual printing apparatus to print the print data from the client apparatus, based on the print attribute set on said image.

25 14. A method according to claim 13, wherein:
the description information of the printing apparatus includes information indicating the type of

09091501-062701
10/20/2013 10:25:00

the printing apparatus;

said display control step displays an image for setting the type and number of the printing apparatus, on the display unit of the client apparatus; and

5 said generation step selects the printing apparatus based on the type and number set on the image, and generates the description information of the virtual printing apparatus based on the description information including information indicating the set
10 type.

15. A method according to claim 13, wherein:

 said display control step displays an image for designating the printing apparatus on the display unit
15 of the client apparatus; and

 said generation step selects the printing apparatus designated on the image, and generates the description information of the virtual printing apparatus based on the description information of the
20 designated printing apparatus.

16. A method according to claim 13, further comprising:

 an input step for renewing the content of the
25 description information of the printing apparatus.

17. A method according to claim 13, wherein:

00000001.00000001

the description file of the virtual printing apparatus describes the function obtained by combining plural printing apparatus.

5 18. A method according to claim 13, wherein:
 said generation step determines the number of
copies that can be outputted by the virtual printing
apparatus, by adding the numbers of copies that can be
respectively outputted by the plural printing
10 apparatus.

 19. A method according to claim 13, wherein:
 said generation step determines the number of the
output bins of the virtual printing apparatus, by
15 adding the respective numbers of the output bins of the
plural printing apparatus.

 20. A method according to claim 13, wherein:
 said generation step determines the kinds of
20 papers that can be processed by the virtual printing
apparatus, by the kinds of papers that can be
respectively processed by the plural printing
apparatus.

25 21. A method according to claim 13, wherein:
 said generation step either determines that the
virtual printing apparatus has a two-side printing

000015531-0000701

function in case at least one of the plural printing
apparatus has the two-side printing function, or
determines that the virtual printing apparatus has a
sheet processing function in case at least one of the
5 plural printing apparatus has the sheet processing
function.

22. A method according to claim 21, wherein:
said sheet processing function is a stapling
10 function, a book binding function, a folding function,
a punching function, a gluing function, an enveloping
function or a private box delivery function.

23. A method according to claim 13, wherein:
15 said control step judges whether or not to
disperse the print data to plural printing apparatus
based on the set print attribute, and transmits the
dispersed print data to the respective printing
apparatus.

20 24. A method according to claim 23, further
comprising:

an informing step of informing how the print data
are dispersed, from the server apparatus to the client
25 apparatus.

25. A program to be executed in a printing system

202501032701

composed of plural printing apparatus, a client
apparatus capable of setting the print environment and
setting the print attribute, and a server apparatus for
causing at least one of the plural apparatus to execute
5 the printing according to print data from the client
apparatus, the program comprising:

a generation step of selecting printing apparatus
based on the print environment set in the client
apparatus, and generating description information
10 describing the function of a virtual printing apparatus
composed of the selected printing apparatus, based on
the description information;

a display control step of displaying an image of
the print attribute on a display unit of the client
15 apparatus, based on the description information
generated by said generation step; and

a control step of causing the printing apparatus
constituting said virtual printing apparatus to print
the print data from the client apparatus, based on the
20 print attribute set on said image.

26. A program according to claim 25, wherein:
the description information of the printing
apparatus includes information indicating the type of
25 the printing apparatus;

said display control step displays an image for
setting the type and number of the printing apparatus,

03801501.062701

on the display unit of the client apparatus; and
said generation step selects the printing
apparatus based on the type and number set on the
image, and generates the description information of the
5 virtual printing apparatus based on the description
information including information indicating the set
type.

27. A program according to claim 25, wherein:
10 said display control step displays an image for
designating the printing apparatus on the display unit
of the client apparatus; and
said generation step selects the printing
apparatus designated on the image, and generates the
15 description information of the virtual printing
apparatus based on the description information of the
designated printing apparatus.

28. A program according to claim 25, wherein:
20 said control step judges whether or not to
disperse the print data to plural printing apparatus
based on the set print attribute, and transmits the
dispersed print data to the respective printing
apparatus.

25
29. A program according to claim 28, further
comprising:

00001581 062701
10/23/99 19:51:59

an informing step of informing how the print data are dispersed, from the server apparatus to the client apparatus.

5 30. A computer readable memory medium storing a program to be executed in a printing system composed of plural printing apparatus, a client apparatus capable of setting the print environment and setting the print attribute, and a server apparatus for causing at least
10 one of the plural apparatus to execute the printing according to print data from the client apparatus, the program comprising:

 a generation step of selecting printing apparatus based on the print environment set in the client
15 apparatus, and generating description information describing the function of a virtual printing apparatus composed of the selected printing apparatus, based on the description information;

 a display control step of displaying an image of
20 the print attribute on a display unit of the client apparatus, based on the description information generated by said generation step; and

 a control step of causing the printing apparatus constituting said virtual printing apparatus to print
25 the print data from the client apparatus, based on the print attribute set on said image.

09051501.062701
10/22/2018 10:25:22 AM

31. An information processing apparatus capable of communication with plural printing apparatus and an external apparatus capable of generating print data, setting print environment and setting print attribute, comprising:

holding means for holding description information describing the respective functions of the plural printing apparatus;

generation means for selecting printing apparatus based on the print environment set by the external apparatus, and generating description information describing the function of a virtual printing apparatus composed of the selected printing apparatus, based on the description information held by said holding means; and

control means for causing the printing apparatus constituting said virtual printing apparatus to print the print data from the external apparatus, based on the print attribute set by said external apparatus.

32. An apparatus according to claim 31, wherein: the description information held by said holding means includes information indicating the type of the printing apparatus;

an image for setting the type and number of the printing apparatus is displayed on a display unit of the external apparatus; and

19801531.062701
said generation means selects the printing
apparatus based on the type and number set on the
image, and generates the description information of the
virtual printing apparatus based on the description
5 information including information indicating the set
type.

33. An apparatus according to claim 31, wherein:
an image for designating the printing apparatus is
10 displayed on the display unit of the external
apparatus; and

said generation means selects the printing
apparatus designated on the image, and generates the
description information of the virtual printing
15 apparatus based on the description information of the
designated printing apparatus.

34. An apparatus according to claim 31, wherein:
said control means judges whether or not to
20 disperse the print data to plural printing apparatus
based on the set print attribute, and transmits the
dispersed print data to the respective printing
apparatus.

25 35. An apparatus according to claim 34, further
comprising:

informing means for informing how the print data

are dispersed, from the information processing apparatus to the external apparatus.

36. A program to be executed by an information
5 processing apparatus capable of communication with
plural printing apparatus and an external apparatus
capable of generating print data, setting print
environment and setting print attribute, the program
comprising:

10 a generation step of selecting printing apparatus
based on the print environment set by the external
apparatus, and generating description information
describing the function of a virtual printing apparatus
composed of the selected printing apparatus, based on
15 the description information describing the functions of
the respective printing apparatus; and

a control step of causing the printing apparatus
constituting said virtual printing apparatus to print
the print data from the external apparatus, based on
20 the print attribute set by said external apparatus.

37. A program according to claim 36, wherein:
the description information includes information
indicating the type of the printing apparatus;
25 an image for setting the type and number of the
printing apparatus is displayed on a display unit of
the external apparatus; and

said generation step selects the printing apparatus based on the type and number set on the image, and generates the description information of the virtual printing apparatus based on the description information including information indicating the set type.

38. A program according to claim 36, wherein:
an image for designating the printing apparatus is displayed on the display unit of the external apparatus; and

said generation step selects the printing apparatus designated on the image, and generates the description information of the virtual printing apparatus based on the description information of the designated printing apparatus.

39. A program according to claim 36, wherein:
said control step judges whether or not to disperse the print data to plural printing apparatus based on the set print attribute, and transmits the dispersed print data to the respective printing apparatus.

40. A program according to claim 39, further comprising:
an informing step of informing how the print data

are dispersed, from the information processing apparatus to the external apparatus.

41. A computer readable memory medium storing a program to be executed by an information processing apparatus capable of communication with plural printing apparatus and an external apparatus capable of generating print data, setting print environment and setting print attribute, the program comprising:

10 a generation step of selecting printing apparatus based on the print environment set by the external apparatus, and generating description information describing the function of a virtual printing apparatus composed of the selected printing apparatus, based on

15 the description information describing the functions of the respective printing apparatus; and

a control step of causing the printing apparatus constituting said virtual printing apparatus to print the print data from the external apparatus, based on

20 the print attribute set by said external apparatus.